If I Only Knew . . .
What to do with my hamstring pull

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Of all the muscles a runner can pull, the hamstrings is definitely one of the most frequently reported. There seem to be a plethora of reasons why, but although we know and understand the causes of it, runners still get hamstring pulls everyday. We will look at those causes so that you can determine whether you are at risk, and then look at the treatment for those who were unfortunate.

Risk factors

The hamstrings is a group of muscles (semitendinosis, biceps femoris, semimembranosis) that attaches on your pelvis, on a part called the *ischial tuberosity* (the bone you sit on). The different muscles run on the back of your thigh and attach on either side of your knee (biceps femoris attaches on the external side of your knee, on the head of the fibula, and the two others – semimembranosis and semitendinosis – attach on the other side of your knee, the internal side). Their main function is to bend the knee, but they also assist in extending the hip (kicking the thigh back). They come into play on every step you take when you are running, and they work even harder on hill climbs or sprints. Most ruptures actually occur during a sprint or a major hill climb, and affect the tendon, as opposed to the muscle bulk.

There are 3 degrees of injury for a hamstring pull (it is actually the scale used for any muscle pull, not just the hamstrings) :

• 1st degree : a simple muscle *pull*, where you have damaged (read torn) less then 25% of the fibres of the muscle. The tendon is generally intact;

• 2nd degree: a more serious pull, or strain, where 25-70% of the fibres of the muscle bulk or the tendon have been damaged;

• 3rd degree: generally called a complete rupture, where the tendon completely (or almost completely) snaps.

So what makes you prone to rupture your hamstrings?

• The number one hamstring killer is the lack of flexibility. Like any muscle, the more you exercise a muscle, the bigger it gets. And the bigger the muscle gets, the shorter it becomes. Failure to stretch routinely makes your muscle an easy target for injury - a weak link - because it becomes constantly under tension. And we all know that anything that is constantly under tension will eventually collapse (or snap in this case!).

• Repetitive tendonitis: a tendonitis creates constant inflammation around the tendon, and a large build up of scar tissue, both known to weaken the tendon. Once the tendon is weak (from an unhealed or recurrent tendonitis) , any sustained tension on it can create some serious damage, like a strain.

• Muscle imbalance: your hamstrings should be at least 2/3 of the strength of your quadriceps (the muscles in the front of your thigh). For most people, it is only about ½, of even less. When you are running, your quadriceps ensure that your knee does not buckle upon *heel strike* (phase of the gait where you hit the ground with your heel). If they are too strong for the hamstrings, they will constantly drive your knee too far in extension, and create a repetitive pull on the hamstrings, creating some microscopic damage in the muscle, a weakness eventually leading to a tendonitis or a strain.

• Repetitive cortisone injections: for years doctors of medicine have been treating stubborn tendonitis with cortisone (or some other anti-inflammatory) injections. Some are more cautious than others and inject *around* the tendon, but some are bolder and inject directly *in* the tendon. Any injection creates a tiny hole in the tissue, and therefore the body creates some scar tissue to repair the hole. This eventually leads to serious weakness of the tendon. One or two injections *in* the tendon will not kill you, but DO NOT exceed three. And preferably, get your doctor to inject *around* the tendon instead, if the injection is really necessary.

• Poor posture: how can your posture affect your hamstrings you will ask? Well remember, hamstrings are attached on your pelvis. Your pelvis is the base of your spine, the base of the structure that supports all the muscles. Any poor posture affects or starts from the pelvis. So if you tend to stand like a gymnast, with your bum sticking out and a big curve in your low back, your are standing with what is called an *anterior pelvic tilt*. By doing so, you are pulling the ischial tuberosities up (where your hamstrings attach), elongating the hamstrings and creating a constant tension on them. They will not last very long until they manifest themselves! On the other hand, if you stand with the opposite type of posture, the *posterior pelvic tilt* (round shoulders, head poking forward), do not congratulate yourself, because you are not any better! You may not be pulling on the hamstrings, but you are pulling on the opposite muscles, the hip flexors. They then become hyper-responsive due to the constant pull, and they tend to shut down the opposite muscles (a reflex mechanism), making your hamstrings (and gluteus too) very weak. Weak hamstrings? See above!

• Over-training: for most orienteers, this should not be a problem!!! But for those of you out there who are training to increase running speed, be aware of those high intensity workouts. Too much too soon is very destructive. I mentioned earlier that hamstrings work particularly hard during sprints and hills, workouts of choice to increase speed and power. Too many of those with inappropriate warm up or rest in between repetitions and/or training sessions will make your hamstrings very fatigued and unable to recover, eventually making the muscle weak and prone to injury.

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comparison, are portrayed as having a manly appetite, hence the name, The Man-wich. Think about it: Would The Woman-wich sell? Or Hungry Woman TV Dinners? No way! Lean Cuisine is the desired category. The result of years of bombardment with these messages is that young girls believe they need to be thin at any cost. The cost: no birthday cake, no chips, no pizza, no breakfast, no lunch. Additional costs: food obsessions; guilt upon eating more than a rice cake; low energy, poor sports performance. Food is considered bad, addictive, or a reward for having survived life's stresses. ("You deserve a break today...") Where are the positive messages that food is life-sustaining, nourishing and essential to our wellness and self-care?

Let's get real

So what can we do to help prevent disordered eating and distorted body images? For one, we can redefine health. Is a woman truly healthy (and praiseworthy) if she eats virtually no fat and exercises constantly? According to Jon Robinson, PhD of the Center for Preventive Medicine in Lansing, Michigan and a speaker at the SCAN conference on Eating Disorders (Orlando, April 2002; www.nutrifit.org), fatness is of far less importance than fitness. That is, fat but fit people can be healthy and live long lives.

Contrary to media's messages, the truth is women (and all humans) come in assorted sizes and shapes. No one size is right, good, perfect. Regardless of size, your body deserves to be loved and nourished, not hated and starved, punished with excessive exercise. Take note: the seemingly "dedicated athlete" who exercises religiously and eats "perfectly" may actually be exhausted and unhappy, an obsessive, compulsive exerciser who is trapped in a vicious cycle. Have the courage to point out what you see: "You seem tired; you've lost that sparkle in your eye. Are you OK?"

If you do feel trapped, remember you have the right to choose the kind of life you believe is most worth living. If you are spending too many hours exercising and fretting about what and when to eat and how to purge calories (vomiting? exercising?), know there is a gentler way to live. Perhaps, instead of being on a relentless diet, you could simply learn to love your body for what it is? After all, your beauty comes from the inside out, not from thinner thighs. And if the truth be told, who (other than you) really cares what you look like? Do you actually care about how others look? Of all the people in your life who have made an impact on you, did any of them have a "perfect body"? Likely not, but were they still lovely? Yes! People who fret about food and weight all the time cut themselves off from family, friends and relationships. They deaden their emotions with hunger. That's why people with anorexia can actually lose weight (as compared to most diet failures). They do not eat due to stress, nor do they find enjoyment in eating. They miss out on one of life's pleasures: enjoyable eating.

Finding a lifeline

If you are among the many weight conscious exercisers who finds yourself more and more confused about how to diet without feeling denied, deprived and obsessed, I encourage you to seek professional nutrition guidance from a registered dietitian (RD) who specializes in sports nutrition. You can find a local RD by using the American Dietetic Association's referral network (800-366-1655; www.eatright.org).

Everyone always wins with good nutrition!

Nancy Clark, MS, RD, nutrition counselor at SportsMedicine Associates in Brookline MA, spends hours counseling people with disordered eating patterns. Her books offer self-help information: Nancy Clark's Sports Nutrition Guidebook, 2nd Edition ($23) and Nancy Clark's Food Guide for Marathoners: Tips for Everyday Champions ($20). Both are available by sending a check payable to Sports Nutrition Materials to 830 Boylston St. #205, Brookline MA 02467 or via www.nancyclarkrd.com.

Look not too long in the face of the fire, O man! Never dream with thy hand on the helm! Turn not thy back to the compass; accept the first hint of the hitching tiller; believe not the artificial fire, when its redness makes all things look ghastly. Tomorrow, in the natural sun, the skies will be bright; those who glared like devils in the forking flames, the morn will show in far other, at least gentler, relief; the glorious, golden, glad sun, the only true lamp - all others but liars!

*Herman Melville, **Moby Dick**, 1851*